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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SELLERS, DANIEL R

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 04/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,749

Applicant(s)

GIBBS ET AL.

Examiner

Daniel R. Sellers

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claim 1, lines 17-19, it is unclear as to what comprises the list of criteria. In particular it is unclear as to whether it is one or two distinct criteria in the phrase "comprising a start-up time associated with a time required for the controllable motor to begin spinning *at reach operational speed* and" The office interprets this list to comprise of (1) the time required to begin spinning the motor *and* reach operational speed and (2) the current capacity of the buffer.
4. Regarding claim 2, the same language is present as presented above, and the above reasoning is applied.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-7, 9-18, and 20-27 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Birrell et al., U.S. Patent No. 6,332,175 (hereinafter Birrell).

7. Regarding claim 1, see Birrell,

A system for the optimization of data transfer in a portable spinning media device, the system comprising:
a housing to house electronic circuitry; (inherent)
a circuit board within the housing; (inherent)
a battery power supply to provide electrical power to the circuitry; (Fig. 1, unit 122)
a buffer to temporarily store digital data, the buffer having a predetermined total capacity and a current capacity based on an amount of the total capacity currently being used to store digital data; (Fig. 1, unit 108 and 110)
a CODEC to receive digital data from the buffer and to convert the digital data to audio data; (Fig. 1, units 102, 112, and 126)
a spinning storage device, comprising a controllable motor and a data sensor capable of reading digital data from a storage media mounted on the spinning storage device; (Fig. 1, unit 104)
a processor to determine a time interval required for data transfer from the spinning storage media to the buffer to permit the continuous flow of digital data to the CODEC, the processor determining the time interval based on at least one transfer criteria selected from a list of criteria comprising a start-up time associated with a time required for the controllable motor to begin spinning at reach operational speed and the current capacity of the buffer, the processor further determining a point in time at which to initiate data transfer from the spinning storage media to the buffer and generating a control signal to initiate operation of the motor for the predetermined time interval and to thereafter eliminate the control signal to thereby cause the motor to cease operation; and (Fig. 1, unit 106, Fig. 3, step 224, and Col. 3, lines 39-58)
an audio amplifier having an amplifier input coupled to the CODEC to receive the audio data therefrom, the audio amplifier further having an output and providing amplified analog signals to the output for connection to an audio output device. (Fig. 1, unit 130)

Birrell teaches a portable audio player with these power saving features.

Birrell teaches the use of a data input port to receive data from a computer. It is inherent at the time of the invention that the Universal Serial Bus was a good design choice for data input, wherein other options included the slower parallel or serial ports included with computers, or the fast IEEE-1394 Firewire™ interface. Given the limited amount of options, this interface is inherent.

12. Regarding claim 6, the further limitation of claim 2, see Birrell

... further comprising an input device operable by the user to enter instructions. (Fig. 1, units 116 and 120)

Birrell teaches an input device with these features.

13. Regarding claim 7, see the preceding argument with respect to claims 1 and 2.

Birrell teaches a system for the optimization of data transfer in a battery-powered spinning media device.

14. Regarding claim 9, the further limitation of claim 7, the determination of transfer time based on the predetermined data rate of the CODEC is inherent. In the design of a very-large scale integration (VLSI) microchip, or the like, a critical path is computed.

The critical path is the largest delay path in the signal path of the designed chip, and in a typical datasheet of available DSP microchips, and the like, the maximum delays are published. It is inherent in power saving devices, such as taught by Birrell, that this is accounted for in the determination of the initiation of accessing the spinning storage device.

15. Regarding claim 10, the further limitation of claim 7, see the preceding argument with respect to claim 1. Birrell inherently teaches that a fixed amount of buffers are

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8. Regarding claim 2, see the preceding argument with respect to claim 1, and see Birrell

A system for the optimization of data transfer in a battery-powered spinning media device, the system comprising:

a buffer to temporarily store digital data, the buffer having a predetermined total capacity and a current capacity based on an amount of the total capacity currently being used to store digital data;
a spinning storage device, comprising a controllable motor and a data sensor capable of reading digital data from a storage media mounted on the spinning storage device; and
a processor to determine a time interval required for data transfer from the spinning storage media to the buffer, the processor determining the time interval based on at least one transfer criteria selected from a list of criteria comprising a start-up time associated with a time required for the controllable motor to begin spinning at reach operational speed and the current capacity of the buffer, the processor further determining a point in time at which to initiate data transfer from the spinning storage media to the buffer and generating a control signal to initiate operation of the motor for the predetermined time interval and to thereafter eliminate the control signal to thereby cause the motor to cease operation.
(Col. 6, lines 5-20)

Birrell teaches about spinning storage device access times and buffer capacity being considered in their device.

9. Regarding claim 3, the further limitation of claim 2, see the preceding argument with respect to claim 1, and see Birrell

... further comprising:

a CODEC to receive digital data from the buffer and to convert the digital data to audio data; and
an audio amplifier having an amplifier input coupled to the CODEC to receive the audio data therefrom, the audio amplifier further having an output and providing amplified analog signals to the output for connection to an audio output device. (Col. 1, lines 57-61 and Col. 4, lines 30-37)

Birrell teaches these features in a portable audio player.

10. Regarding claim 4, the further limitation of claim 2, see Birrell

... further comprising an input interface to receive additional digital data. (Col. 4, lines 43-45 and Fig. 1, unit 132)

Birrell teaches, in a portable audio player, the feature of an input interface.

11. Regarding claim 5, the further limitation of claim 4, see the preceding argument with respect to claim 4.

... wherein the input interface comprises a universal serial bus interface.

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available and it is inherent that this number is considered when determining the transfer initiation time.

16. Regarding claim 11, the further limitation of claim 7, see the preceding argument with respect to claim 1. Birrell teaches that the buffer has a data indicator with these features.

17. Regarding claim 12, the further limitation of claim 7, see Birrell

... further comprising a data indicator indicative of a location in the buffer currently being transferred to the CODEC wherein the processor reserves a portion of the buffer having locations immediately preceding the indicator so that data transferred from the storage media is not transferred into the reserved buffer portion. (Col. 6, line 64 – Col. 7, line 5)

Birrell teaches of a reserved section preceding the current transfer point in the buffer.

18. Regarding claim 13, the further limitation of claim 12, see the preceding argument with respect to claim 12. Birrell teaches the use of reserved section for this purpose.

19. Regarding claim 14, the further limitation of claim 13, see the preceding argument with respect to claim 12 and see Birrell, column 6, lines 59-64. It is inherent that a user may want to rewind further back than the stored amount of audio in the buffer, and that the system will transfer the appropriate data from the spinning disk to the buffer.

20. Regarding claim 15, the further limitation of claim 7, see the preceding argument with respect to claim 12. Birrell teaches an audio player with this feature of initiating a fast forward function and updating the indicator in the buffer.

21. Regarding claim 16, the further limitation of claim 15, see the preceding argument with respect to claim 12. Birrell teaches this feature.

22. Regarding claim 17, the further limitation of claim 15, see the preceding argument with respect to claim 12. Birrell teaches the feature of a reserved location preceding the indicator's current location.

23. Regarding claim 18, see the preceding argument with respect to claims 1 and 2. Birrell teaches this method for optimizing the data transfer in a battery-powered spinning media device.

24. Regarding claim 20, the further limitation of claim 18, see the preceding argument with respect to claim 9. It is inherent that processor delays are considered in the teachings of Birrell's low power system.

25. Regarding claim 21, the further limitation of claim 18, see the preceding argument with respect to claim 11. Birrell teaches a data indicator with these features.

26. Regarding claim 22, the further limitation of claim 18, see the preceding argument with respect to claim 12. Birrell teaches the use of a reserved portion in the buffer for this purpose.

27. Regarding claim 23, the further limitation of claim 22, see the preceding argument with respect to claim 13. Birrell teaches the use of a reserved portion in the buffer for this purpose.

28. Regarding claim 24, the further limitation of claim 23, see the preceding argument with respect to claim 14. It is inherent that the reserved portion is of a limited size and that the system may need to backfill the buffer.

29. Regarding claim 25, the further limitation of claim 18, see the preceding argument with respect to claim 15. Birrell teaches this feature in the fast forward operation.

30. Regarding claim 26, the further limitation of claim 25, see the preceding argument with respect to claim 16. Birrell teaches this feature of accessing the spinning drive quicker than usual in a fast forward operation.

31. Regarding claim 27, the further limitation of claim 25, see the preceding argument with respect to claim 17. Birrell teaches the reserved portion in the buffer.

Claim Rejections - 35 USC § 103

32. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

33. Claim 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Birrell as applied to claim 7 above, and further in view of the manual page of the UNIX command 'dd' in the GNU fileutils 4.0 package (hereinafter 'dd').

34. Regarding claim 8, the further limitation of claim 7, see the manual page for the UNIX command 'dd'. This command allows a user in a computer to specify a transfer of data from one file to another, wherein on a UNIX system everything is considered to be a file (i.e. writing output to a disk can consist of writing to a /dev/hda file). The 'dd' command further allows the user to specify the same, or different, input and output

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block sizes in the data being copied. It would have been obvious for one of ordinary skill in the art to combine the teachings of Birrell with this feature of the 'dd' command to optimize the storage transfer and retention of data.

35. Regarding claim 19, the further limitation of claim 18, see the preceding argument with respect to claim 8. The combination of the 'dd' command and the teachings of Birrell teach this feature.

Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Englehardt, U.S. Patent No. 5,477,511, Biliris et al., U.S. Patent No. 5,720,037, Altare et al., U.S. Patent No. 6,791,481, The Personal Jukebox Product Information webpage as archived by <http://www.archive.org>, and The Personal Jukebox webpage from Compaq's Systems Research Center.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS



SINH TRAN
SUPERVISORY PATENT EXAMINER